HOW TO SURVIVE A CONVERSATION ABOUT ARTIFICIAL INTELLIGENCE?

Are you sometimes lost in jargon when talking about artificial intelligence? Have you ever struggled to define basic AI concepts and to talk about them in a relatable manner? Do you have difficulties understanding the sometimes subtle differences between AI-related terms?

The Knowledge Centre Data and Society summarized 8 concepts that often occur in conversations about AI. Applications of AI are a combination of some of these concepts and systems. Knowledge of these 8 concepts should allow you to take part in a basic conversation on AI.

Our next brAInfood will look in more depth at the ethical and legal concepts that are part of a conversation about AI.

Sources of inspiration:

The International Dictionary of Artificial Intelligence, William Raynor, 1999.

AI Knowledge Map: how to classify AI technologies. A sketch of a new AI technology landscape, Francesco Corea, 2018.

The Artificial Intelligence dictionary for beginners, Heuritech, 2018.

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DATA

Information that can inform decisions. Computer data is information in an electronic format stored or processed by a computer.

E.g. text or numbers, but also images, audio and video clips, ...

ALGORITHM

A **succession of rules and instructions** that achieves a predetermined goal. An algorithm reads, searches and sorts data in order to create knowledge.

MACHINE LEARNING

Adaptive learning systems that learn how to make decisions or carry out tasks. When machines or tools receive more data, they automatically improve as the algorithms in the **machines discover patterns** in the collected data. They do so independently without being explicitly told how, but relying on examples or suggestions.

DEEP LEARNING

An advanced form of machine learning that utilizes techniques inspired by our (limited) understanding of the human brain. These techniques are termed **(deep) neural networks** and require huge amounts of data and processing power, providing high performance in numerous tasks.

REINFORCEMENT LEARNING

Goal-oriented systems which learn how to attain a complex goal and adapt to their environment over time. The systems learn by making use of an (externally provided) **evaluation of how well they are doing after each action they take**.

NATURAL LANGUAGE PROCESSING

A field that looks into how machines can read, understand, manipulate and derive meaning from **human language.** It allows interaction through natural language, in a spoken or written manner.

E.g. smartphone assistants, chatbots, news summarization from thousands of sources, ...

COMPUTER VISION

A field that aims to make computers see, interpret and understand the **content of digital images and video streams**.

E.g. object and face detection, fingerprint recognition, augmented reality, ...

ROBOTICS & ROBOTS

A branch of engineering that involves the conception, design, manufacturing and operation of robots. Robots are programmable **machines that perform a series of actions (semi-)autonomously**. Robotic Process Automation is used to automate mundane and repetitive tasks.

E.g. cobots that closely collaborate with humans in e.g. factories, ...

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